

Restoration in the Hawlings River Watershed

By Jonathan Stauffer, Environmental Quality Resources, LLC and Meosotis Curtis,
Montgomery County Department of Environmental Protection

The Hawlings River Watershed is the largest of the three major subwatersheds on the Montgomery County side of the Patuxent Reservoirs. A variety of studies over the past ten years have indicated that the Hawlings River is a significant source of sediment and nutrients to the reservoir. In general, stream resource condition in the watershed seems to be directly related to amount of development, with poor conditions in the highly developed Olney area and better conditions in the upper watershed with its mix of agricultural and rural uses.

Watershed Characteristics

The Hawlings River watershed covers 28 square miles and includes 98.2 miles of stream that drain to the T. Howard Duckett (Rocky Gorge) Reservoir. As reported in the Countywide Stream Protection Strategy (1998), it begins near the small rural town of Etchison, just below the intersection of Routes 108 and 650. Above Sundown Road, the watershed is in rolling agricultural lands with many small tributaries that flow to create the Hawlings River mainstem.

The Middle Hawlings passes through a narrow, rocky valley area where stream velocity increases. Some of the best stream habitat in the entire watershed can be found within the streams of this area in the county's Rachel Carson Conservation Park. Below Georgia Avenue, the stream passes through a sandy loam floodplain. The change to

sandy soils along with uncontrolled storm water from the Olney Mill tributary to the Reddy Branch has resulted in severe bank erosion and scoured-out pools. The Reddy Branch and the James Creek, which flow into the Lower Hawlings from the southwest, contain higher density development associated with the Olney Town Center.

With more development than the other two subwatersheds, the Hawlings River has only 28% forest cover compared to 35% for the Upper Patuxent and 44.5% for the Lower Patuxent watersheds.

Watershed Restoration Study

The Charles P. Johnson and Associates/Environmental Quality Resources Team (the Team) has been conducting the Hawlings River Watershed Restoration Study since May 2000. The Montgomery County Department of Environmental Protection (DEP) is funding this study in support of the Patuxent Reservoirs Watershed Protection Agreement.

First Steps: Background Review

The Team began by conducting a review of the existing information and previous studies of the Hawlings River and Patuxent Reservoirs watersheds. The Team then examined biological and stream habitat data collected during 1997 by DEP and M-NCPPC staff and results from the 1998 Stream Corridor

Assessment completed by the Montgomery County Conservation Corps. Land use and land management practices within the watershed were also reviewed and a strategy (outline below) was developed.

Next: Into the Field

From Fall 2000 until May 2001, the Team monitored eight stations for stream bank erosion and stream channel changes. The stations were chosen to provide a representative sampling of the entire watershed and placed in areas within existing DEP or M-NCPPC stations for potential long-term program use. The Team collected detailed measurements of the stream's cross-section at each station at the beginning and end of the six-month monitoring period. After each of six storm events with varying total rainfall amounts, we monitored each station for maximum stream height and amount of erosion that had occurred during each event. In February 2001, the Team began field surveys to collect data for designing stream restoration projects on 15 miles of priority stream sections identified by ranking already existing data. The Team also began evaluating the watershed for adding new or retrofitting existing stormwater management facilities for runoff control.

Data Analysis and Preliminary Findings

The most notable observation from the data gathered during the stream monitoring was that the stations, and by extension the watershed, were undergoing change. These changes seemed, however, relatively minor,

although the monitoring period was too short to identify trends in the data. From the field walks, the Team observed that the more southern part of the watershed showed more instability of stream banks and associated problems than the northern end. This may be attributable to the sandier soils in the area, to the higher level of development (around Olney), or a combination of these and other factors. In both the urban and rural areas, the most common problems found during the field walks were bank erosion and inadequate riparian buffers. These two problems were often found together in the same areas, and were the root of other problems including tree loss along the stream banks and eroded material covering the stream bottom habitat and filling in the stream channel.

The Team is currently conducting further data analysis, designing restoration and stormwater management projects to address the identified problems, and preparing the final report for completion in late fall, 2001. For more information on the Hawlings River Watershed Restoration Study, contact Meosotis Curtis at 240-777-7711.



Below is Jonathan Stauffer of EQR, on a stream walk in the southern part of the watershed. The vertical, sloughing erosion is typical of many areas in the Hawlings River Watershed.





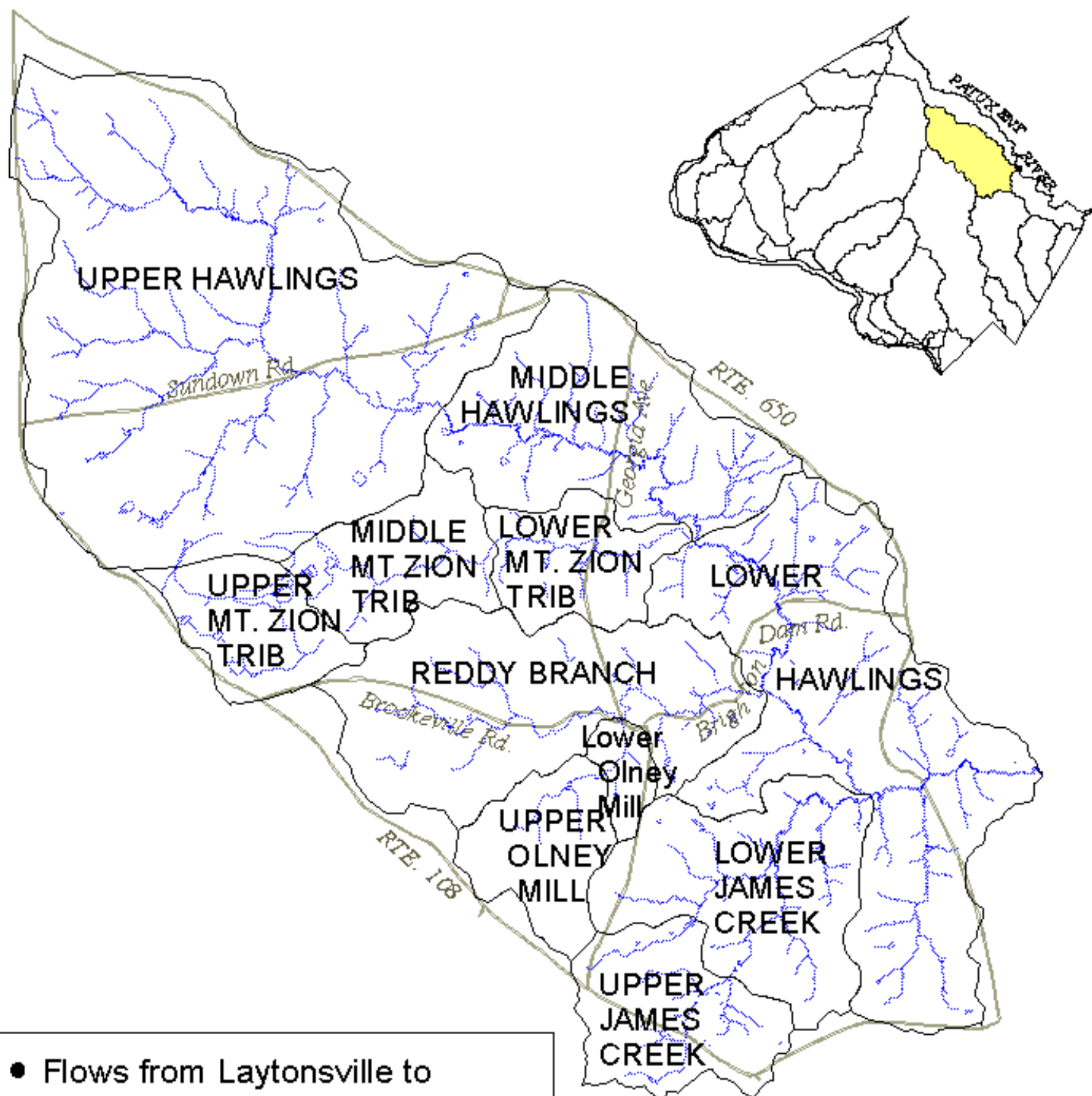
Inadequate stream buffers were found in both rural and urban areas. These buffers are needed to moderate water temperature during the summer months, to filter pollutants in runoff from adjacent land areas, and to provide wildlife habitat.





This is an example of restoration techniques used in a recently restored section of another watershed. The banks have been graded, willow stakes were planted to stabilize the banks, the riparian buffer has been replanted, and structures were placed instream to increase habitat and control degradation

HAWLINGS RIVER WATERSHED



- Flows from Laytonsville to Olney and Sandy Spring Ashton
- Drains to the T. Howard Duckett (Rocky Gorge) Reservoir
- Drainage : 28 sq. miles
- Miles of streams: 98.2
- Forest cover: 28%, lowest in the Patuxent watershed

Care and Feeding of the Hawlings River Watershed

By Diane Davis, Montgomery County Department of Environmental Protection

Who is responsible for the ‘care and feeding’ of the Hawlings River watershed ? YOU are. Whether your property is surrounded by crops, animals, or other homes, there are many opportunities to help improve the health of the neighborhood in which you live, work, and play. One way to care for the Hawlings River watershed is by becoming aware of the very resources that make up the watershed – rural open space, forested buffers, clean stream valleys, and healthy habitat areas. The first step to protecting *your* environment is heightened awareness of those special features that are around you. Chances are good that many of those very features drew you to live there in the first place.

Another step towards ‘feeding’ a healthy watershed is by getting residents more actively involved. The 1997 Reservoirs Watershed planning study found that two top priorities included: 1) protecting the rural character of the area; and 2) encouraging citizen stewardship to maintain this character. One resident, Dr. Mitch Weiner, found it very rewarding to rally around local issues that might impact or alter the watershed. He got to know many more neighbors while also becoming much more familiar with local leaders and governmental processes. *“I learned to be alert to changes in the area, if new signs go up and display a telephone number, I call to find out what is proposed,”* says Dr. Weiner. For his efforts to protect a small part of the Hawlings River watershed, Dr. Weiner is rewarded every day with panoramic views from his kitchen window overlooking 23 acres on the James Creek which remain in a natural state. He wants all his neighbors to know that *“the whole watershed benefits because of citizen involvement.”*

For more information on how you can care and feed your local tributary, or simply learn more, call Diane Davis at 240-777-7714. Or, visit DEP’s website at www.askdep.com which offers a variety of ideas for taking action. Some easy and simple examples include the following:

Tree Plantings – make your neighborhood cleaner and greener by planting near streams, wetlands, or drainage areas.

Wetland Habitat Enhancement – Turn a neighborhood pond or wet area into a habitat for wildlife and help to reduce the amount of fertilizers and sediment going into the Hawlings River and the reservoir.

Storm Drain Stenciling – Organize a fun children’s activity to paint “Don’t Dump: Drains to Hawlings River” (or “Chesapeake Bay”) at selected stormdrains in the watershed.